

**$\Lambda_c(2880)^+$**  $I(J^P) = 0(?^?)$  Status: \*\*\*

A narrow peak seen in  $\Lambda_c^+ \pi^+ \pi^-$  and in  $p D^0$ . It is not seen in  $p D^+$ , and therefore it is probably a  $\Lambda_c^+$  and not a  $\Sigma_c$ . ARTUSO 01 guesses, based on the narrow width, that it might be a  $J^P = 1/2^-$   $\Lambda_{c0}^+$ , where the subscript 0 indicates that the two light quarks are in a  $J^P = 0^-$  state.

 **$\Lambda_c(2880)^+ \text{ MASS}$** 

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b><math>2881.9 \pm 0.5</math> OUR FIT</b>				
<b><math>2881.9 \pm 0.1 \pm 0.5</math></b>	$2.8k \pm 190$	AUBERT	07	BABR in $p D^0$

 **$\Lambda_c(2880)^+ - \Lambda_c^+ \text{ MASS DIFFERENCE}$** 

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b><math>595.5 \pm 0.5</math> OUR FIT</b>				
<b>596 ± 1 ± 2</b>	$350^{+57}_{-55}$	ARTUSO	01	CLE2 in $\Lambda_c^+ \pi^+ \pi^-$

 **$\Lambda_c(2880)^+ \text{ WIDTH}$** 

VALUE (MeV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<b><math>5.8 \pm 1.5 \pm 1.1</math></b>		$2.8k \pm 190$	AUBERT	07	BABR in $p D^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<8	90		ARTUSO	01	CLEO in $\Lambda_c^+ \pi^+ \pi^-$

 **$\Lambda_c(2880)^+ \text{ DECAY MODES}$** 

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \Lambda_c^+ \pi^+ \pi^-$	seen
$\Gamma_2 \quad \Sigma_c(2455)\pi$	seen
$\Gamma_3 \quad \Sigma_c(2520)\pi$	not seen
$\Gamma_4 \quad p D^0$	seen

 **$\Lambda_c(2880)^+ \text{ BRANCHING RATIOS}$** 

$\Gamma(\Sigma_c(2455)\pi)/\Gamma(\Lambda_c^+ \pi^+ \pi^-)$	$\Gamma_2/\Gamma_1$
<b><math>0.31 \pm 0.06 \pm 0.03</math></b>	$96$ ARTUSO      01      CLE2 $e^+ e^- \approx \gamma(4S)$

$\Gamma(\Sigma_c(2520)\pi)/\Gamma(\Lambda_c^+\pi^+\pi^-)$			$\Gamma_3/\Gamma_1$	
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<b>&lt;0.11</b>	90	ARTUSO	01	CLE2 $e^+e^- \approx \Upsilon(4S)$

## $\Lambda_c(2880)^+$ REFERENCES

AUBERT 07	PRL 98 012001	B. Aubert <i>et al.</i>	(BABAR Collab.)
ARTUSO 01	PRL 86 4479	M. Artuso <i>et al.</i>	(CLEO Collab.)